NPS/UCLA CLIMATE CHANGE WORKSHOP:
Developing a Collaborative Science Agenda for Southern California Coastal Parks
April 27-28, 2011

Speaker Bios

Stacey Ostermann-Kelm is the Program Manager of the Mediterranean Coast Network (MEDN) of the National Park Service's Inventory and Monitoring Program. She holds a B.A. in Zoology from the University of California, Davis, an M.S. in Wildlife Science from Oregon State University, and a Ph.D. in Conservation Ecology from the University of California, Davis. Dr. Ostermann-Kelm's research focused on the ecology and population dynamics of small populations and the effects of urbanization on federally endangered desert bighorn sheep. As an agency scientist for the past 6 years her focus has been the development and implementation of scientifically based long-term natural resources monitoring programs. Currently she oversees 16 monitoring programs ("Vital Signs") in the 3 parks within the Mediterranean Coast Network: Cabrillo National Monument, Santa Monica Mountains National Recreation Area, and Channel Islands National Park.

Felicia Federico is the Executive Director of the UCLA La Kretz Center for California Conservation Science. She hold a B.S. in Mechanical Engineering from Rensselaer Polytechnic Institute, an M.A. in Geography from UCLA, and a Doctorate (D.Env) in Environmental Science and Engineering from UCLA. Dr. Federico's research focus is on managing the impacts of urban hydrology on stream channel stability and ecology. She is responsible for directing the La Kretz Center's efforts toward the goal of preserving California's exceptional biodiversity and unique ecosystems. The La Kretz Center is a partnership with the National Parks, State Parks, and the Mountains Recreation and Conservation Authority; it strives to provide a model of university and inter-agency cooperation for meeting the conservation and management challenges of the world's growing urban-wildland interface.

Paul Bunje is the Executive Director of the UCLA Center for Climate Change Solutions and the Managing Director of the Los Angeles Regional Collaborative of Climate Action and Sustainability (LARC). He holds a B.S. in Biological Sciences from the University of Southern California, and a Ph.D. in Integrative Biology from the University of California, Berkeley. Dr. Bunje's current research focuses on the integration of energy systems in physical communities and the methods by which complex scientific information is communicated to decision makers. He works to bridge the gap between research science and decision makers to help society respond and adapt to the challenges of climate change. LARC is a unique organization that brings together regional stakeholders including the County of Los Angeles, many cities, non-profits, and agencies such as the Metropolitan Transit Authority. LARC is a place to share information and best-practices, and is preparing a region-wide climate action plan to reduce L.A.'s greenhouse gas emissions and dramatically improve the sustainability and quality of life in Southern California.

Glen MacDonald is UC Presidential Chair and Director of the UCLA Institute of the Environment and Sustainability. He is Professor in the Department of Geography and in the Department of Ecology and Evolutionary Biology. He holds a B.A. in Geography from UC Berkeley, an M.Sc in Geography from the University of Calgary, and a Ph.D. in Botany (with a minor in Geology) from the University of Toronto. Professor MacDonald studies climate change and its impacts on ecosystems and societies, with a particular focus on drought and water resources. His lab reconstructs past climate change and impacts through the use of fossil pollen, fossil stomates, plant macrofossils, insect remains, tree-rings, geochemistry and historical records. Professor MacDonald also works on issues of current and future environmental change with a focus on water scarcity. Areas of active field research include California, the northern Great Plains and adjacent Rocky Mountains, the North American subarctic, Russia and Siberia.

Daniel Cayan is a Research Meteorologist at the Scripps Institution of Oceanography (SIO), University of California, San Diego, and is also a Researcher in the U.S. Geological Survey. He holds a B.S. in Meteorology and Oceanography from the University of Michigan, and a Ph.D. in Oceanography from the University of California, San Diego. Dr. Cayan's work is aimed at understanding climate variability and changes over the Pacific Ocean and North America. Specific interests concern impacts of climate changes on water resources and other sectors in western North America. He heads the California Nevada Applications Program and the California Climate Change Center, climate research programs to improve climate information and forecasts for decision makers in the California region; see http://meteora.ucsd.edu/cnap/.

Alex Hall is Associate Professor in the Department of Atmospheric and Oceanic Sciences at UCLA. He holds a B.A. with a double concentration in Physics and History from Pomona College, and a Ph.D. in Atmospheric and Oceanic Sciences from Princeton University. Professor Hall studies the climate system from both regional and global perspectives. He has experience in analysis of climate simulations, and comparing output from these experiments to *in situ* and remote sensing data. At the global scale, he studies processes determining the climate system's response to increases in greenhouse gases. At the regional scale, he has been active in the development and integration of regional climate models. Professor Hall uses these simulations to examine mesoscale climate dynamics and interactions among earth-system components that are crucial for simulating and understanding regional climate but are largely unrepresented in current global climate models. This research also has applications in the areas of climate impacts, water resources, renewable energy, and conservation.

Curtis Deutsch is Assistant Professor in the Department of Atmospheric and Oceanic Sciences at UCLA. He holds a Ph.D. from Princeton University and specializes in Ocean Biogeochemistry. Professor Deutsch's research aims to contribute to a coherent understanding of the interactions between biogeochemical cycles and the climate system so that we may better understand past and predict future changes in the environment. Because these interactions involve diverse processes occurring on many spatial and temporal scales, numerical models with varying degrees of complexity are necessary for synthesizing and clarifying current understanding. To date his research has focused primarily on modeling connections between ocean biogeochemistry and climate from human to geological time scales. Professor Deutsch strives to construct simple quantitative models that are guided by observational constraints and oriented toward conceptual understanding.

Wolfgang Buermann is Adjunct Assistant Professor at the UCLA Institute of the Environment and Sustainability and the UCLA Department of Atmospheric and Oceanic Sciences. He hold a B.S. in Physics-Engineering from Fachhochschule Weingarten, an M.S. in Physics from the University of Connecticut, and a Ph.D. in Geography from Boston University. Professor Buermann's research focuses on what controls the exchanges of energy, water and carbon between land surfaces and the atmosphere and how it pertains to vegetation dynamics. This research is relevant to several environmental problems, including understanding changes in near-surface climate, pattern of biodiversity and the carbon cycle.

Kelly Redmond is Deputy Director and Regional Climatologist at the Western Regional Climate Center / Desert Research Institute, Reno, NV. He holds a B.S. in Physics from the Massachusetts Institute of Technology, and an M.S. and Ph.D. in Meteorology from the University of Wisconsin-Madison. Dr. Redmond maintains an interest in all facets of climate and climate behavior, its temporal variability, spatial characteristics and physical causes, how climate interacts with other human and natural processes, and how such information is acquired, used, communicated, and perceived. He serves as Regional Climatologist for the western United States, working in settings that span a diverse range from coasts to mountains, desert to rainforest, and tropical to polar climates. Dr. Redmond has played an active role nationally in development of the climate services sector.

Victoria Sork is Dean of the Division of Life Sciences, and Professor in the Department of Ecology and Evolutionary Biology at UCLA. She holds a B.S. in biological sciences from the University of California, Irvine, and an M.S. in zoology and a Ph.D. in biological sciences from the University of Michigan. Professor Sork, whose research lies at the interface of evolutionary biology and ecology, is considered a pioneer in the recently emerged field of landscape genetics. Her research examines evolutionary and ecological processes that affect the genetic composition of natural populations of trees and how that existing genetic variation influences the ability of populations to respond to environmental change. Professor Sork's current focus employs genomic tools to understand the geographical patterns of adaptive genetic variation in California oak populations by studying environmental gradients of SNPs in candidate genes. This work has direct application for concerns about the ability of tree populations to respond to climate change.

Terri Hogue is Associate Professor in the Department of Civil and Environmental Engineering at UCLA. She received her B.S. from the University of Wisconsin-Eau Claire, and M.S. and Ph.D. from the Department of Hydrology and Water Resources at the University of Arizona. Professor Hogue's research centers on understanding hydrologic and land surface processes, with much of her work focused in semi-arid regions. Projects include investigating catchment response to wildfire, as well as the impact of urbanization and climate variability on land-atmosphere interactions. Professor Hogue uses field and experimental methods, modeling and optimization techniques, as well as remote sensing data in her investigations. The overarching goal of her research program is to improve the prediction of hydrologic fluxes for better management of water resources, to assess human impacts on the environment, and to mitigate the effects of natural hazards.

Steve Beissinger is a Professor of Conservation Biology and holds the A. Starker Leopold Chair in Wildlife Biology at the University of California, Berkeley. He holds a B.S. and M.S. in zoology from Miami University, and a Ph.D. in Natural Resource Ecology from the University of Michigan. Professor Beissinger's research integrates studies of basic processes in behavioral and population ecology, and applied problems in wildlife and conservation biology. A dominant theme that draws his research in conservation biology and ecology together has been to determine the influence of environmental variation and climate changes on behavior and life histories, to link these processes to population ecology, and to use this knowledge in the management of endangered or commercially valuable wildlife, and threatened ecosystems through the development of quantitative tools. Most of his work has been with birds, but he has also published on microbes, orchids, invertebrates, herps, and mammals. Professor Beissinger is senior editor of the books *Population Viability Analysis* (University of Chicago Press, 2002) and *New World Parrots in Crisis: Solutions from Conservation Biology* (Smithsonian Press, 1992).

Richard F. Ambrose is Director of the Environmental Science and Engineering Program and Professor in the Department of Environmental Health Sciences at UCLA. He received his B.S. in Biological Sciences at the University of California, Irvine (1975) and his Ph.D. in Marine Ecology at UCLA (1982). Professor Ambrose's research focuses on ways to protect and maintain the ecology of coastal areas; much of his work is conducted at the interface between environmental biology and resource management policy. Current research focuses on (1) restoration of degraded habitats, especially for coastal marine environments, and (2) assessment of the health of coastal ecosystems. He has established a network of monitoring stations at intertidal sites from Orange County to San Luis Obispo County in order to be able to detect any large ecological impacts that might occur to this section of coast, including short-term impacts such as an oil spill and long-term effects from global climate change.

Jake Weltzin is the Executive Director of the USA National Phenology Network, based in Tucson, AZ. He obtained his B.S. in Range and Forest Management from Colorado State University, M.S. in Range Science from Texas A&M University, and Ph.D. in Renewable Natural Resource Studies from the University of Arizona. Dr. Weltzin is interested in how the structure and function of plant communities and ecosystems might respond to global environmental change, including atmospheric chemistry, climate change, and biological invasions. His recent experience as a science administrator at the National Science Foundation underscored the need to foster large-scale science initiatives such as the USA-NPN. As its first Executive Director, Dr. Weltzin's vision for USA-NPN is "to develop a continental-scale instrument for integrative assessment of global change that simultaneously serves as an outreach and educational platform for citizens and educators."

Christy Brigham is the Chief of Planning, Science and Resource Management for the Santa Monica Mountains National Recreation Area. Christy received her PhD in ecology from the University of California, Davis. Dr. Brigham's work in the park focuses on restoring damaged lands, removing non-native invasive species, and protecting resources through prevention of future invasions. Her research interests include: understanding the relative impacts of invasive species on native biodiversity, identifying effective ecological restoration techniques, evaluating ecotypic differentiation in native species and the impact of this differentiation on restoration design, evaluating techniques to disrupt the cycle of weed recolonization in degraded lands, and understanding the direct and indirect impacts of non-native species on threatened and endangered plants.

Angela Evenden is the National Park Service Research Coordinator of the Californian Cooperative Ecosystem Studies Unit (CA-CESU) based at the University of California, Berkeley. She holds B.S. and B.A. degrees in Botany and German, a M.S. in Rangeland Ecology, and Ph.D. in Botany all from Oregon State University. Dr. Evenden has worked throughout the Intermountain West and Northern Rockies as a federal agency scientist for the past 30 years with a focus on vegetation ecology and natural areas, including threatened and endangered species, vegetation classification and mapping and long-term resource monitoring. Currently she is responsible for facilitating National Park Service research, technical assistance and education projects between CA-CESU partners including several campuses of the University of California and California State University systems and National Parks across California and beyond.

Eric Graham is Associate Development Engineer / Staff Ecologist at the Center for Embedded Networked Sensing (CENS) at UCLA. He holds a B.S. in Zoology from the University of Washington, and a Ph.D. in Biology from UCLA. Dr. Graham's current work focuses on developing mobile- and web-based environmental applications, including the What's Invasive! system for invasive plant and animal detection, a collaboration with Calflora and Project BudBurst. CENS is a worldwide leader in designing, deploying and learning from new sensing technologies, with over 60 multi-disciplinary faculty engaged in research; they are focused on developing mobile sensing systems and applying this revolutionary technology to critical scientific and social purposes.

Susan Teel is Director of the National Park Service Southern California Research Learning Center. She holds a B.S. in Biology from Florida International University, and an M.S. in Marine Biology and Coastal Zone Management from Nova Southeastern University. Ms. Teel is responsible for conducting research and education programs, and recruiting and maintaining a network of key scientific, educational, and community partners to assist with research and educational activities in three network parks (Channel Islands National Park, Cabrillo National Monument, and Santa Monica Mountains National Recreation Area). Several current projects are focused on innovative experiential learning, environmental science via distance education, and programs to involve students in on-going research at National Parks.

Dave Busch is the Interim Director of the Southwest Climate Science Center, and is with the USGS Pacific Southwest Area, based in Sacramento, CA. He holds a B.S. and M.S. in Wildlife Ecology from the University of Nebraska, and a Ph.D. in Environmental Biology from the University of Nevada, Las Vegas, where his research focused on the ecology of woody plants in southwestern riparian ecosystems. Dr. Busch previously served as Senior Biologist for the Western Region, and has helped represent the USGS since 1997 on teams implementing Northwest Forest Plan monitoring and research. His professional interests cluster in two areas: the development and implementation of scientifically based monitoring programs, and the functional and community ecology of riparian and wetland ecosystems. He worked on both topics as the Inventory and Monitoring Program Manager for the National Park Service at Everglades National Park (1994-1997), and as Senior Terrestrial Biologist for the Bureau of Reclamation's Lower Colorado Region (1981-1994). Key principles drawn from monitoring programs in these systems are highlighted in "Monitoring Ecosystems: Interdisciplinary Approaches for Evaluating Ecoregional Initiatives," a 2003 book Dr. Busch co-edited.